## UNITED STATES DEPARTMENT OF ENERGY + + + + + NATIONAL PETROLEUM COUNCIL

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123rd MEETING

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TUESDAY
JULY 16, 2013

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The Council met in the Astor
Ballroom at the St. Regis Hotel, 923 16th
Street, N.W., Washington, D.C., at 9:00 a.m.,
James T. Hackett, Chair, presiding.

## MEMBERS PRESENT:

JAMES T. HACKETT, Chair CHARLES D. DAVIDSON, Vice Chair MARSHALL W. NICHOLS, Executive Director

GREGORY A. ARMSTRONG, Chair, Finance Committee ROBERT B. CATELL, Acting Chair, Nominating Committee

PRESENT FROM THE DEPARTMENT OF ENERGY:

THE HONORABLE ERNEST J. MONIZ, Secretary of

Energy

THE HONORABLE DANIEL B. PONEMAN, Deputy
Secretary of Energy
THE HONORABLE CHRISTOPHER A. SMITH, Acting
Assistant Secretary for Fossil Energy

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last night.

I think it's a very important

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endorsement of the activity that we're engaged in here.

And I know that was a topic of discussion this morning. I passed that on to Secretary Moniz that we really appreciate them making themselves available last night.

We probably kept Chris and Dan a little too late at dinner but we'll try to do better on that in the future. But we had a great discussion.

I also want to welcome any guests as well as the press and the public because this is a public meeting. If there's no objections I'll call the meeting to order.

The roll we will dispense with.

The check-in that happened in the back there will serve as our roll. And if you have not checked in when you came in please do so before you leave so we can get an accurate count.

I want to introduce the participants at the head table if I may first.

On my right is the Council's co-chair and the new Secretary of Energy, the Honorable Ernest Moniz.

He's very familiar with the

Council. We learned that a little bit in our

meeting yesterday as well as a number of you,

I'm sure Rex and others know that he

participated in the 2007 Hard Truth Study. He

was very involved in a lot of the activities

there from his position at MIT. And we're

very pleased to have you here today and look

forward to your remarks.

Next is Chuck Davidson who a lot of you know who's CEO and chairman of Noble Energy, I think one of the great exploration and production companies in our industry.

Chuck's a guy I've worked with closely on a number of professional activities and have the utmost admiration for. I appreciate him serving in the role of vice chair of our group.

Next is the Honorable Chris Smith.

He's the Acting Assistant Secretary for Fossil Energy. And Chris was actually instrumental in the last study that was done on the North American natural resources side.

Chris was the co-chair of the subcommittee and worked with Clay Bretches from Anadarko and just did a phenomenal job and showed a great deal of passion and dedication to getting the report disseminated which I know is a terribly important part of what we all expect as participants in the study is to actually get the word out on the good work that was done.

And I think that Chris's estimation and certainly Secretary Poneman's too is that that actually did have a great deal of value, that "Prudent Development" study.

On my left is the Honorable Dan

Poneman. And I'm going to talk about Dan in

a minute. And then Marshall Nichols, our

executive director who all of you know at the

Council, has been for many years and does a great job leading us.

Before I invite Dan to the podium
I just wanted to introduce, and he's going to
introduce the Secretary as well. Just some
activities that occurred since our last
Council meeting that Dan was involved in was
the devastation we saw around Hurricane Sandy.

And I saw a side of Dan that I had not seen which was hugely positive for me outside of the normal course of our study work, and that was in regard to the response on that hurricane. And his engagement for a number of you that were on the phone, I know Greg Armstrong was intimately involved in this along with Marshall, but Dan has this amazing ability in that particular crisis environment to be passionate about getting the right players to the table, whether they're CEOs or people that are on the ground actually doing the work.

I've got to believe he was

sleeping on mattresses in a room for days and days on end, and really used the NPC in a way that we have traditionally been used but not recently, to respond to that endeavor and that important recovery effort.

I think we learned a lot that we need to apply, by the way, in the future. And I think the Secretary may have some more words around this. We learned a lot about how this industry has changed in terms of the diversity of players and the decentralization of our fuel logistics infrastructure.

And I think the federal government learned that it isn't just about the electric utilities in terms of a response to a crisis.

It's also about fuel. And so I think all of us now know how integrated and important this system is. And we were much better prepared on the electric side than we were quite frankly on the fuel side. And so there's great lessons to be learned and applied here.

And I want to thank Dan

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(Applause.)

DEPUTY SECRETARY PONEMAN: Thank

you, Jim, for those very kind words of introduction. It's a real pleasure to be back. I think I've been to every one of these in the years I've been at the Department and it's always a great opportunity to get together with people who care so deeply about the issues that we all care about.

And I'll just respond a little bit to Jim's opening remarks. It truly did take the National Petroleum Council back to its earliest days when Harold Ickes, we were talking about this last night, was working with President Roosevelt to make sure that this country had the fuel that it needed to win World War II.

And if I may say I think that NPC really in the case of Hurricane Sandy stepped up to the plate in a very significant way because of Jim's leadership and the leadership of everybody else here. And I think the person who really had a cot in the FEMA Operation Center was Marshall Nichols who we

embedded actually out of a conversation with the President of the United States.

The President actually ran the response on a day-to-day basis with big conference calls, some face-to-face meetings.

And those of you who have spent some time in government know that the words of the President, we hang on these. This is the coin of the realm and it makes things happen.

And in the earliest days President Obama said two things. After preservation of life and limb restoration of power is our top priority. And secondly, I have zero tolerance for red tape. And within 12 hours C-17's were showing up on air fields in California and bucket trucks were getting tied down and flown over.

So credit is due not only to the people at the front lines who were working that real hard, but the people on the west coast and the people who were making the crews, 70,000 available to help trim trees and

restore lines. It was a team effort.

And as Jim just eloquently stated, it did show us the patchwork regulatorily speaking. And it showed us a lot of the deficits and the deep, deep interconnections between the fuel side and the electric side, and how the diversification in the industry has had an effect on how well we can respond to emergencies.

I will not say more about that now because I think you may hear some more about it a bit later. But it does I think bring us back to the important role of the NPC.

And the wartime experience that

President Roosevelt had had with the precursor

was such that Harry Truman asked Harold Ickes

in 1946 to constitute this group.

And it's a unique organization in which there's a real partnership. It may be the only one of these organizations under the so-called Federal Advisory Committee Act in which we have co-chairmanship between the

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And we have been very respectful of the talent and willingness to proffer that talent that the leadership and the rank and file of the NPC have put forward. It was something like 4 years ago probably almost exactly. At that point Dave O'Reilly and Claiborne Deming came in. And they had a list of a few topics. And they said what would you like us to study.

And then with Secretary Chu, he picked two which was you could see everyone turning white knowing -- I'm sure you know the extensive efforts that go into any NPC study.

It's three or four thousand people working on these things it seems.

But we have to thank for that I
think a very, very outstanding study on the
prudent development of North American oil and
gas resources which I think has a very few
succinct yet salient and compelling
conclusions.

We know about the gas story being important. At that point the oil story was not yet completely evident to the wider world as it is to you all. We need oil and gas, very simple, but we need to understand this.

And we need to develop these resources prudently so that we can continue to enjoy the public support that we need to do that.

And similarly the transportation study looked at a whole range of technologies, provided a lot of very important information that people are continuing to study. So it's a unique opportunity and we are very mindful that at a time like this we want to be good stewards of the resources here so that we can marshal them to support the nation's biggest problems.

We are in a moment of incredible historic transformation in this nation's energy history. The gas story is well known to everyone here at this point. And we are still proud that the Department of Energy

played an early role. Between 1978 and 1992 on the order of \$137 million went into some of the technologies not then of interest to the private sector.

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And we all know the rest of the story from having read Dan Yergin's books having gone from something like 2 percent of our annual natural gas production around 2000 to over one-third now, and an annual gas economy of the on the order of 23 trillion cubic feet. It is an absolutely remarkable transformation.

And now we witness an oil transformation just as remarkable. Since 2008 oil imports have dropped from 57 percent to 42 percent. President Obama called for cutting oil imports by one-third by 2025 in his Georgetown speech. Now we're talking about cutting them by half by 2020. It is an incredible story.

Our production is up I think last
I read from EIA 800,000 barrels per day year

on year and we're heading to 8 million barrels a day I think in 2014. It's an incredible story and you are all at the cutting edge of it.

And so we are at a seismic moment of historic change on our energy, but we're also confronting very, very major challenges as the President made clear and as the Secretary will speak to momentarily. And I will not -- I'm a good enough staffer not to step on his talking points so I won't. But I will -- I did? Oh, dear.

(Laughter.)

DEPUTY SECRETARY PONEMAN: I read them on the way over. I thought I took all the other stuff out. Sorry. This is what happens when you go off script. I hate reading stuff. Okay.

So I'm going to pivot to the really important thing which is introducing our next speaker. This is really, it's not only an honor, it's a pleasure and a privilege

for me.

The story of Ernie Moniz is a true

American story. His parents came from the

Azores, a little rock out there in the

Atlantic, Portuguese immigrants.

They moved to a place some of you may know called Fall River. So after Lizzie Borden and George Stephanopoulos we now have our third famous son of Fall River.

And I've had the opportunity to work with in his earlier time in government and actually collaborate with academically when we were both out of government on a wide variety of topics.

On one of our trips to Russia I
can't constrain myself from admitting that I
did find out he had actually been a very, very
talented baseball player in his youth,
recruited to the Detroit Tigers organization.
I'm going to keep saying it. If you say it
enough it will become true.

(Laughter.)

DEPUTY SECRETARY PONEMAN: In any event he really needs in this group no introduction. Many of you know him very, very well and those who don't will enjoy the opportunity. I am very, very pleased and ask you to join me in extending a warm welcome to Secretary of Energy Ernie Moniz.

(Applause.)

SECRETARY MONIZ: Dan insisted upon these apocryphal stories. I will be fixing his talking points in terms of the biography sometime soon.

But I actually do want to thank

Dan a lot, not for the introduction but, I

mean that's fine, but more for his incredible

service. He was actually, we confirmed on the

way over, not with him, with Google, that he

was confirmed as Deputy Secretary on May 18,

2009, and we believe this is now a record

having gone beyond 4 years.

And that Dan is helping certainly me and the Department with the benefits of his

4 years of experience, hanging in, not to mention the fact that as you can tell we have a lot of fun together. It's really been terrific. And I know he's been very important in the interactions with the NPC specifically.

I also want to thank Jim for leadership here on the NPC. I think Dan and I and Chris and Melanie Kenderdine is here someplace. I'll come back to referring to some of the things she'll be doing of relevance to you that we all look forward to working with this Council.

We think it's a very important voice in what we need to do over these next few years. Of course we like it when there are multiple voices all singing nicely in a choir and we will hope to get some of the studies with multiple inputs.

Jim and Chuck and Marshall all came over to visit with us yesterday to have a first I think good discussion. We'll come back to that. But I want you all to be

comforted that they wasted no time in raising the most important issue, renewal of the charter of the NPC in January.

I'm going to -- Dan is right, I'm going to go immediately off script a little bit. I want to take a step back. I mean obviously I'm still new in this job, still not at the 2-month mark. And I want to say maybe a little bit about the Department more broadly than the interest that you have directly just for a couple of minutes because maybe give a little perspective.

The President has in the last month, just about a month now, actually given two major policy speeches. One was in Berlin and that was on nuclear security issues, nuclear weapons, nuclear materials, nuclear terrorism, following on his speech in Prague very shortly after he took office.

And the second major policy speech followed a week later and that was of course his speech on climate which does have direct

implications for a lot of what you do and what we will be working on and talking about.

What I want to point is that at the Department of Energy both of those policy arenas are core to our missions. Because as you know we have missions on the security side as well. And so the Department really is going to have -- has and will have really major responsibilities in these two major policy arenas as we go forward. And of course I'll talk more about the climate side rather than the security side in the remainder of my remarks.

But then I will also note two things. One is there is actually a link between those subjects certainly in that, for example, climate change as a potential threat multiplier in unstable parts of the world some of which you work in.

And secondly of course nuclear power as a potential part of the solution to mitigating climate if it is done safely,

securely and without contributing to proliferation risk. So again there is a coupling between these and that's very much part of what we will be doing.

Secondly, in responding to these responsibilities and to others I want to say a few words about a significant reorganization that we are doing in the Department which I think can have some relevance to your work.

There are two that I will mention which are I think of particular consequence.

One is that we, as you may know we've had for the last years, or DOE has had for the last years what are generally referred to at least as an Under Secretary for Nuclear Security, an Under Secretary for Energy, and an Under Secretary for Science.

We think that the science and the energy first of all need to come together more strongly. So we will be actually integrating those responsibilities with one Under Secretary for Energy and Science.

Neal R. Gross & Co., Inc. 202-234-4433 And secondly, the third Under
Secretary position then will be focused on
management and performance. Clearly we all
know that we need to up our game in terms of
executing on management and performance and so
this will elevate that to an Under Secretary's
organization in that focus. So that's one
change.

A second change, and I'll come back to a driver, a key driver for this, is that we will be -- in the last years, actually the last 12 years policy has been integrated with international. And clearly there's some good reasons for that including many of the issues that you deal with inherently have some strong international and energy policy connections.

However, we felt that we need to really raise the game on energy policy considerations, and significantly increase our analytical capacity to examine energy policy issues. So we are planning to establish, this

is not a done deal yet, but we are moving towards establishing a new office with those combined responsibilities. That's what Melanie Kenderdine will be leading.

And one of the important drivers for that that I will return to is that we will be carrying out across the administration a new process called the quadrennial energy review. This is in President Obama's Climate Action Plan. It's going to be a new and it's going to be a challenging process to bring together all the threads of environment, climate, economy, jobs, security with players at Defense, State, Energy, Commerce, Agriculture, Interior, you name it, to try to get something that integrates all these threads together.

I think that will be important in terms of how we shape our energy policy approaches. And it may be important also in terms of how we might collaborate with some of the NPC activities. So that's just kind of

the big picture in terms of some of the things that are happening in the Department I think which can bear on really all that we do.

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Okay, so let's turn to some of the more specific issues, particularly around energy and climate issues.

Now, as Dan has already said this is obviously, no big secret in this room, a time of really tremendous change in the energy world and certainly in the American energy world.

He's already referred to the enormous increases in production from unconventional sources, both oil and gas. And we and the President are keenly aware of what this has meant for the economy, for jobs.

It's meant this natural gas production, shale gas production led to the order of \$100 billion of investment in new manufacturing capacity in the United States. So this is really, we all understand this is really a big deal.

It's been pointed out many times
that certainly myself coming in at this time
to the Department of Energy, there's kind of
a different mind-set in the United States
about the whole energy situation. And in that
context I would note, I mentioned organization
earlier, that it's been awhile that, you know,
the Department was established as you all know
in the late seventies following ERDA, in the
earlier seventies following the first oil
shock.

And let's face it, a lot of aspects of organization, of some policy areas are rooted in a time when the global markets looked very, very different from what they did, say, when I was there last, say 12 years ago.

And so I think we had some catching up to do in that context. And I think actually in the technology side there has been some really interesting evolution, new programs like ARPA-E, and Energy Frontier

Neal R. Gross & Co., Inc. 202-234-4433 Research Centers, and innovation hubs, the loan programs. We can get into that.

But these are different ways of going about research, development, demonstration and deployment. And I think frankly they are better matched to the realities of what the energy world is like today.

We probably have been a little bit slower on some of the shall we say policy sides in catching up to that change in global markets. But now besides the change in global markets we have this revolution really in domestic production.

And I think one of the unanswered questions right now for us is in fact how are we going to -- what are the right responses.

What are the policy directions, what are the programmatic needs that we have to respond not just to the global market changes, but to the very, very different situation we have today in the United States.

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Now, I will come back to that. I think part of it is certainly in the administration's approach is the so-called all of the above approach. And I'm an all of the above kind of person. We'll come back and discuss that.

But in addition it's things like this quadrennial energy review process that we will be launching are a really good opportunity to start to think that through and think about how we integrate that into -- integrate this different reality into the energy policy process.

So we're very aware of that dynamic clearly and very aware of the need to really start thinking through how we do things differently in a very different energy world to put it simply.

Now, going to the -- I want to leave time for questions but I still have quite a few pages left here. So let me continue with the riff.

Neal R. Gross & Co., Inc. 202-234-4433 First, let me say a little bit
more about the Climate Action Plan and if you
like the all of the above approach. Again, I
think the President has made it clear that
domestic hydrocarbon production is very
important to the economy and our issue is to
really, to manage that as we go over time to
a low-carbon economy.

Of course, in this intervening period natural gas has been explicitly part of a market-based reality that has in fact contributed to lower CO2 emissions because obviously we all know that there's been a market-driven shift, substitution, substantial substitution of natural gas for coal especially in the electricity sector.

So as part of the mitigation strategy in the plan there are things like a new \$8 billion loan guarantee program put forward for fossil energy technologies.

Because we all recognize that even as we talk about and aspire to a very low-carbon economy

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in the future we need both what we might call the transformational technologies, a large-scale deployment of renewables, say. But we also cannot get there without innovating around today's fuels and technologies.

And so this is, it's a major program. It's out there now for draft solicitation. It's very broad. The only issue is fossil energy technologies, oil, gas, coal that can lead to reduced emissions. It can be everything from — the table is open for comments, dry fracking, chemical looping, novel waste heat recovery. Really it's an unpainted canvas and we have a 2-month period looking for comments and then a solicitation will go out in the — later on this year.

So I just mention that as only one of the examples in what is a significant portfolio of mitigation. Certainly I'll just say that efficiency across the board is certainly one of the major themes as well as new technologies.

Ducket in the plan is I would say a much stronger emphasis on adaptation than we have seen up to now. The view, the President said we are experiencing change. We're going to experience more. And we have to try to mitigate as best we can. We also have to be prepared both for short-term responses and for the long term.

So a short-term response would be, for example, what's already been discussed in the context of the response to Sandy where we need to be better prepared for major events, major weather events, not to mention cybersecurity events, et cetera, but let's focus here on the weather events.

And as Dan said, there was some good news in the response to Sandy and there was some shall we say education in terms of the kinds of surprises that one finds, particularly I would say surprises in terms of the intersection of different energy

infrastructures, in this case electricity and the fuel supply.

And we'll come back to this because, well I mean, I guess to tip the hand, we think this area could be really ripe for an important NPC study in terms of how we look at that.

In terms of longer-term

preparations, well, one of the things in the

Department is that we have stood up and we

have kind of energized a task force looking at

the energy-water nexus. Lots of concerns.

Some of you may have seen we put out a report last week on the vulnerability of the energy sector to extreme events, to drought, wildfires, you name it. We already know some of the problems we've had in a warmer world. And we need to prepare for many of those issues around water.

Clearly, it's often been said as many of you know that petroleum producers are really water producers and also use a lot of

water so these clearly are important. It's also very important in the power sector where our thermal power plants are the largest withdrawers of water in the country, I believe still more than agriculture. Not users but withdrawals.

Another example that will be important to us is in fact whether it's rebuilding or designing the new infrastructure that we need to last for decades as energy infrastructure does. When we build it we have to build it with the eye towards resilience, robustness and resilience to future events. So these are all part of the adaptation bucket in that climate plan which of course we will be executing essentially through, the current plan at least through administrative action.

One other feature I will mention in terms of what we are planning to do in terms of maybe a somewhat shifted emphasis at the Department is we intend to significantly raise our game in terms of interactions with

states.

We think that states and regions are so critical whether it's in a regulatory basis, whether it's in terms of very, very different energy boundary conditions, different energy supplies, different energy needs, different energy infrastructures.

We just think that we need to really elevate our game. And in early August in fact we'll be having a very senior person coming in to head kind of an energized approach in dealing with states as we think about energy policy and energy activities going forward.

Clearly there's probably some interest in the room in things like where we're going with gas, where we're going with LNG exports. And I'll just say what I've said many times, that we are planning to act pretty expeditiously going forward.

As we are required we will be looking at the applications case by case. And

as I've said an order was established and we will stay with the published order. But we are certainly hoping to move forward very soon in dealing with additional applications.

I'm getting concerned about the time so let me say a little bit more about this quadrennial review process. It's going to be relevant I think to potential NPC activity.

Again, as I mentioned earlier the driver is that if we want to do energy policy we really need to bring in multiple equities.

And almost every agency of this government, and almost every committee in Congress has equities in the energy arena. So we need to bring them together.

As the President's action plan stated it will be convened at the White House which frankly has the convening power to bring together the agencies at a senior level. But the Department of Energy will then be called upon to be, if you like, the executive

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secretariat. I mean, we'll have to provide the staffing, the analytical capacity, and that's why we are building up the office I referred to earlier.

Now, in terms of the NPC as we discussed yesterday with Jim and Chuck and Marshall is that I think NPC should think about how might it intersect with this process. Frankly, this is where the action is going to be in terms of our development of policy over this next year and a half at least.

This might call for a somewhat different mode of operation of the NPC, maybe some shorter studies with smaller working groups providing working papers, white papers. This is a discussion I think to continue but again I mean a 2-year study I can guarantee you will miss the quadrennial energy review. Those are important too and we'll discuss those.

But I think there's additional

Neal R. Gross & Co., Inc. 202-234-4433 opportunity to intersect with what is going to be happening in the policy arena over the next year and a half. The QER is one of those as are potential interagency working groups established. Again I go back to the President's action plan and it was established there. There will be, there is now a multiagency group looking across the board at issues of methane emissions. Is that a place where there might be some intersection from this group?

explicitly to this question of potential future studies as we discussed yesterday. As we've already kind of more or less said we think that this idea of looking at the issues of response to major events, to supply interruptions is very important.

We understand there are some technical issues. There are business model issues. Certainly if we look at the intersecting infrastructures, as you all know,

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the utility business, electricity and the petroleum to products right down to the retail level, those are very, very different businesses, very different business models, very different regulatory regimes.

For you there are antitrust issues in terms of what can be done. What kind of waivers are needed pre-position. All kinds of questions. And I think this would be a very rich way of coming together on an NPC study.

API, Jack Gerard, probably in here someplace. We've been working with API and Jack. And API has done some really interesting work in terms of how to view the fuel supply chain. What are the vulnerable points. Where are the places we need to be ready. And so we think that this could be a really interesting study to pick up.

I already mentioned methane
emissions, but in general is there something
particularly in the context again of what is

going to be happening policy-wise in the next year, looking at things. What could be flaring? How do we reduce, eliminate, or minimize at least flaring? How do we address methane emissions? So, these emissions questions I think would be really important.

Another one that we think could be interesting, but again this is to be discussed further, an area of great attention, the Arctic.

Now, here probably, I mean maybe an area of interest which at least in my view has not been well defined is what are the R&D needs thinking about major expansion of exploration in the Arctic.

In particular, you know, how do we avoid and then mitigate any environmental impacts. Is there a public role? Should DOE have a stronger portfolio in looking at Arctic issues?

Again, here always thinking about timeliness. Whether it's QER, multi-agency

task forces, in 2015 there will be a major conference of the Arctic nations. And maybe there's something here that the NPC could have as an important input to that in terms of helping define a research agenda.

Now, clearly we don't want to get into areas where companies get into issues in discussing but I think the research agenda could be one of great interest. So again these are areas where we might be able to tailor your voice, your input into these important and very timely debates.

And finally, another one that could be looked at is the whole question of infrastructure and policy constraints that could inhibit expansion of domestic crude oil production. I think that's one. And there's the issues of light, heavy, refineries, all kinds of issues.

I think that's one where at least

I personally don't have as clear a picture as

to what a study might be that intersects with

our needs. But I know it's one that many of you think is quite important.

So those are four areas that we think could be very rich areas for the Council to look at. And certainly I think we are kind of converging towards the disruption study and the response to disruptions as one that maybe we'd like to get teed up out of the box.

So I think I've said enough.

Again I want to just repeat the obvious, that
we really value your input. We look forward
to it. Dan and I and Chris and others at the
Department look forward to working with you on
this.

And I would hope that there is some discussion among you as well about are there opportunities in fact to look for different ways of doing business in addition to the more traditional NPC type studies where there might be faster hitting working papers that could intersect our processes.

So with that thank you very much.

And I think there's some time for some questions for Dan and Chris and me.

CHAIR HACKETT: Mr. Secretary, if
you don't mind I'll -- we have a process where
the Council members only are allowed to ask
questions of the Secretary. We really
appreciate your comments, Secretary Moniz.
And so we open it up to the floor.

The people in the back and the press or the public, we'll have a time for you to comment after the Secretary has gone and after we've had our administrative reports.

So we'll open it up to the Council members. You've heard some very specific things. We did have a dinner group discussion last night with Dan and Chris at the table and a number of you in the room to kind of kick around some of these ideas initially. And we'll have more discussion at the agenda committee after we've met again with the Department of Energy to see what makes sense.

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But please ask the Secretary any

questions that are on your mind if you would, please. I'm sorry, Dan, excuse me. So if you would tell us your name and the organization you're with. Dan, I don't know you. Could you mention what -- you wrote the whole report our company took credit for.

MEMBER YERGIN: Thank you. Dan
Yergin, IHS. Ernie, you spoke about ARPA-E
and it's a program that you have actually had
a great deal of interest in. It's also under
some budgetary pressure.

Now that it's been a couple of years and you've had a chance to look at it I think the group would be very interested to get a sense from you as to its impact and where the areas are that you find most interesting that it's working on and what its contribution is.

SECRETARY MONIZ: Well, thanks

Dan. First of all, to make it very clear I

think ARPA-E is something that we are very

strongly committed to. There are some

complicated discussions going on in the Congress right now.

But we think there are many

metrics on which I think ARPA-E has been very

successful while of course still being a

fairly young program some of the real outcomes

in terms of whether these technologies get

into the marketplace and scale, you know,

remains to be seen.

But certainly I think it's a much more nimble organization than we have had traditionally at the Department. And also it's focusing its calls I think on a very interesting range of problems which goes everywhere from clearly cutting edge let's say solar technologies or solar-to-fuels technologies.

But then it's also got how can we get a cheap, efficient, natural gas compressor for your home and garage. Which when you think about it could have enormous implications if one could dramatically reduce

the costs of doing that and of course do it safely.

So we can't go through the whole set of programs but I think it's -- I want to just make it very clear again. I would say ARPA-E kind of an all of the above research program as well.

The other thing I'll just note, and I'll go back to the very first call that ARPA-E had in terms of these novel -- by the way, and there are statistics of course about startup companies and this kind of thing that we could go through in terms of moving technologies towards the marketplace.

But I go back to the very first call for proposals, or for expressions of interest. And there were 37 awards. There were 3,100 applications. I believe that there is still a tremendously untapped innovation potential in our universities, our companies, our laboratories.

And for me it's a very high

priority to continue to build ARPA-E. The initial target was, the National Academy recommendation was about \$1 billion a year. We're struggling to get up to a few hundred million at this stage. And again, I believe there is tremendous, tremendous under-utilized capacity.

I should also add that there's going to be some tough things coming up.

Again, another of the programs which I think has been innovative and really important is the Energy Frontier Research Centers run out of the Office of Science.

These are if you like, quotes,

"earlier stage" addressing grand challenges in
science, extremely promising, started in 2009.

Five-year programs, 2009 plus 5 is 2014.

About 40 percent of their funding came from the stimulus package. There's no more stimulus package. And so we have a tough issue coming up. To me it's got to be a high priority to not only sustain this program but

to get new ideas coming in, new ones established. And yet we have a little bit of a problem with the budget. So anyway, so but we are very committed to these innovation programs in terms of technology development.

MEMBER HIGHTOWER: Mr. Secretary,

Steve Hightower with Hightowers Petroleum.

And we still have this area of infrastructure

both in pipeline systems but also in CNG, in

retail infrastructure as well. How do you see

the Department's playing into the retail

infrastructure, necessary CNG facilities

throughout the United States? And also

continue to -- your view on the pipeline

infrastructure as well.

SECRETARY MONIZ: Well, Steve, one of the -- there's an issue there in terms of what is, in fact what is going to be a government role versus a private sector role which is where of course most of the investment and most of the activity occurs in this kind of infrastructure.

I think the Department has clearly made investments in trying to seed projects in terms of let's call it alternative fueling infrastructure where fueling also includes electricity in this case.

we have to look I think at some of the policy issues government-wide. For example, as an aside, it's not on the delivery infrastructure but I think there are issues that need to be looked at let's say as to why CNG vehicles, conversions, seem to have a higher price premium in the United States than they do in many other places. And I think there are things of this type that we can look at which can help condition the market demand for what you're talking about.

Let me actually ask Dan or Chris if you'd like to add to that response.

DEPUTY SECRETARY PONEMAN: Well, only to tie it to your earlier response on ARPA-E. And you made one reference to the

refueling at homes.

When we were looking, and I think it must have been in the context of the transportation study, at the market penetration so far of CNG vehicles here. Of course there's a small fleet-like application, right, and you have these big -- John Deutch would know the exact number -- like 3,600 psi tanks they're carrying around really kind of weighs down the car and its economics.

million ARPA-E grant we're looking not only at the home pumping, home fueling options that the Secretary referred to, but also can you get better absorbent materials, lighter weight materials so you can get that down to like 500 psi. Because if you could open up the light-duty passenger vehicle market to CNG it could transform the whole picture. So I think that these are exactly the kinds of things that are -- I think we can still make some important progress.

CHAIR HACKETT: Maybe one more. I think we need to get the Secretary on the road after this question, Tony.

MEMBER BEST: Mr. Secretary, Tony
Best with SM Energy out of Denver. You
mentioned that the DOE needs to step up their
game and you see more increased interaction
with the states. Could you further elaborate
on your thoughts on that and what the
implications might be for our industry?

personal view is that we have often thought too much or been too rooted in thinking about how an energy policy would be developed kind of at the national level without recognizing that there are incredibly different state and regional differences in terms of energy needs, energy supply, again energy infrastructure, all those areas.

So I think that -- I think we need to have a stronger component of working in some sense from the bottom up into what I

would call in quotes "national energy policy" that recognizes the very, very different regional needs.

Secondly, we also know that the states have often been way out in front in terms of developing policies. And I think we need to learn from those and again explicitly -- I think we can help with a lot of kind of best practices, comparative analyses.

And in this context I mentioned this quadrennial energy review and the energy policy and systems analysis activity, that there will be within that for example an explicit group looking at the state issues.

So I think what the implications are I can't tell you yet but again we are recruiting our key people for this activity.

And we are committed to these discussions with states, both state governments and state regulatory bodies.

CHAIR HACKETT: Mr. Secretary, thank you. We didn't want to keep you past

the appointed hour. And I probably took too much of your time up when I was introducing Dan.

But we very much appreciate you being here. We'll look forward to being responsive to the Department and its needs.

And we very much appreciate you engaging us in some of the discussion you're having with regard to what could be areas that we could help in. So thanks to you and your team and thank you for being here.

SECRETARY MONIZ: Thank you.

(Applause.)

CHAIR HACKETT: It's interesting 
- I'm giving him a book on the history of the

NPC -- when we were talking last night about

this emergency preparedness. Dan Poneman and

I looked at each other when Marshall brought

up some historic uses of executive power to

actually declare emergencies.

And we had never realized that this was done in the past in the country or

with the NPC. So we've got some good work to do in the emergency preparedness area. Thank you, sir, very much.

Thank you all for the questions

too. We would have had more but I really like

the fact that we got a very candid, open

discussion from the Secretary about what the

potential needs for their particular

priorities are. I think that's hugely

valuable to us.

Now I'd like to continue on with some of the administrative matters for the committee. The first report up will be from Greg Armstrong who all of you know as chairman and CEO of Plains All-American Pipeline.

And Greg has done some yeoman's work. He was actually terribly involved -- not terribly, but intimately involved with the Hurricane Sandy effort which was a terrible event. But he was a wonderful representative for us in that regard.

And Greg is the chairman of the

finance committee. And please, Greg, if you could give us your report. Thank you.

MEMBER ARMSTRONG: Thanks, Jim, and good morning to everyone. It has been a very active year for the finance committee.

In that regard I would ask for your patience as I try to strike an appropriate balance between being a thorough report but also appropriate brevity.

Our committee has met twice in this past year, once in April and then again just this morning. And based on our April review we recommended a 2013 budget in the amount of \$4,875,000 with total membership contributions in the same amount.

These recommendations were then approved by the full Council via an electronic ballot vote. And I wish to point out that the approved budget represents just a small increase from 2011-2012 levels.

To fund the budget we recommended delaying the request to members for 2013

contributions until the finance committee had completed a review of the NPC contribution process.

The methodology that has been used was last revised nearly 8 years ago in 2005.

And since that time the overall NPC budget has increased and the U.S. oil and gas industry has been affected by a number of significant structural changes.

Accordingly the finance committee established a contribution subcommittee to examine the current contribution formulas and recommend modifications in order to maintain equity in the funding process.

The contribution subcommittee which was chaired by Pat Diamond and did a great job specifically examined and analyzed the NPC's comprehensive report that updated the contribution process in 2005.

Changes in the NPC operations expenditures since that report. The structural changes that had occurred in

various sectors of the industry and then funding changes that other oil and gas groups had instituted in response to these structural changes.

Based on that analysis the subcommittee concluded several things including that the contribution process and formulas instituted in 2005 were fundamentally sound but did require certain modifications necessary to maintain equity and address industry developments.

It noted that the level of NPC funding has increased since 2005 by almost 45 percent which is reflecting the increased size of the NPC study and projects and cost. And that since the fixed fees used in the NPC contribution formulas had not been changed or adjusted since 2005 this increase had been borne principally by NPC members from integrated and larger E&P companies, and to a lesser degree by members of the natural gas companies due to the allocations of variable

fees to these categories.

The organization by two integrated companies into separate exploration and production, refining and marketing companies resulted in an increase in requested NPC contribution amounts from the remaining members, from integrated larger E&P and natural gas companies.

Also since 2005 there's been a number of changes in company structures in the midstream sector of the industry which includes a spinoff of some E&P operations, an increase in the use of MLPs, and also variances in the types of operations and their resulting returns.

These changes raised questions regarding the appropriateness of the use of gross revenues as a measure of the size of a company and the equity of the resulting requested NPC contributions from the diverse membership in that sector.

In light of those conclusions the

contribution subcommittee recommended that the finance committee continue to use the contribution process and formulas instituted in 2005 with the following recommended modifications.

adjustments and updated ranges for the fixed fees to be used in NPC formulas as follows.

Members from the integrated refining, E&P, midstream and support service companies would use updated fixed fees that reflect CPI increases that have occurred since the last changes to such fees to bring them up to date. And they were implemented to use where appropriate the new high-end fixed fees.

Members of the electric and other large consumer companies and non-industry and individual members were to be -- recommended to use the existing fixed fees without adjustments. And the NPC finance committee should consider indexing future fixed fees on a periodic basis in order to ensure equitable

sharing of the future budget increases or decreases.

Next was to include all refiners in the contributions category with integrated E&P companies. Next was to combine the natural gas and the independent oil transporters and marketers categories into a new midstream category with a formula that uses existing fixed fees and new variable fees based on domestic revenues.

In recognition of these proposed changes in the contribution formulas, their impact on the companies, it was recommended that we phase in the impacts. The 2013 member contribution request would include 30 percent of the change attributable to the revisions in the contribution formulas. Two thousand fourteen would include 75 percent and the full amount would be included in 2015.

At our meeting this morning the finance committee discussed this report and unanimously approved the subcommittee's

findings and recommendations. We believe that
the recommended updates and adjustments
address the potential inequities that have
been identified in the current NPC
contribution formulas.

Chairman Hackett informs us that he intends to send 2013 contribution requests to all Council members before the end of the month. We encourage all members to respond promptly in that delay -- as the delay in sending out the request until we finished the study has caused the Council to tap its cash reserves and we'd very much like to replenish those as soon as possible.

In addition to our action on the contribution subcommittee's report, the finance committee's agenda this morning included the following items. We reviewed the calendar year 2012 draft audit report and draft Form 990 from Johnson Lambert & Co., the Council's outside auditors.

The auditors have provided the

Council with a clean opinion letter which agrees that our financial controls are sound. The committee discussed and approved retaining Johnson Lambert & Co. to continue to serve as the Council's outside auditors for the preparation of calendar year 2013 financial statements and tax forms.

We also reviewed 2013 expenditures to date which indicate that we should end the year in very good financial shape. We also reviewed cost projections associated with certain elements of the Council's employee benefit plans and agreed to consider a proactive funding approach with respect to establishing cash reserves from such elements.

I should point out that the approved 2013 budget includes funds to begin to address the advice that Secretary Moniz discussed the requirements of which are obviously yet to be fully defined.

Finally, we conducted our annual review of the NPC finance committee charter

and concluded that no changes were required.

The finance committee will meet again in the fall to monitor the Council's 2013 contributions and expenditures, and to develop a proposed budget for 2014 and funding requests.

I would also note that with the completion of the study and the acceleration of the budgeting process we intend to send out the membership requests much earlier in the year than has been the case recently.

Mr. Chairman, this completes the report of the finance committee and I would move that it be adopted by the Council membership.

CHAIR HACKETT: Thanks again,

Greg, to you and the committee and also Pat

Diamond for the work on the dues formula. As

you know in a number of other organizations

particularly in things like API we've had the

same sort of issue to deal with with the de
integration of some of the former integrated

We've got a nominating committee report as well. Bob Catell, former utility executive, author, teacher is here to speak to us about that. I think he's highly qualified for this job.

MEMBER CATELL: Thank you, Mr. Chairman, for that very nice introduction.

The nominating committee met on

July 11 and has agreed on its recommendations

for the NPC officers and chairs and members of

the agenda and appointment committees of the

Council as well as the five at-large members

of the NPC co-chairs coordinating committee to

be presented to the membership today.

Accordingly, on behalf of the committee I'm pleased to offer the following nominations. For NPC chair Jim Hackett, NPC vice chair Chuck Davidson.

For the agenda committee we recommend the following as members: Alan Armstrong, Bob Catell, John Hamre, Ray Hunt, Gigi Lazenby, Dave Lesar, Andrew Liveris, Rex

Tillerson, John Watson and Dan Yergin with

Larry Nichols acting as -- serving as chair.

For the appointments committee we recommend the following as members: George Alcorn, Matt Cabell, Bill Fisher, John Hess, Mike Linn, Marvin Odum, Mark Papa, Jim Rogers, David Seaton and John Walker with Bob Palmer serving as chair.

In addition we recommend the following as at-large members of the co-chairs coordinating committee: Greg Ebel, Greg Garland, Jim McManus, Peter Seligmann and Sue Tierney.

This completes the report of the nominating committee and on its behalf I move that the above slate be elected until the next organizational meeting of the Council. Thank you.

CHAIR HACKETT: Thank you, Bob.

Appreciate it. Now anybody who was nominated that wants to speak up or forever hold their peace you're welcome to. It's a big group.

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14 15 discussion? Comments? 16 (No response.) 17 CHAIR HACKETT: All those in favor. 18 (Chorus of ayes.) 19 CHAIR HACKETT: Is anybody opposed? 20 (No response.) 21 CHAIR HACKETT: Wonderful. 22 thanks to everybody for serving. Any other

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business that folks want to bring up in front of the committee before we have a final session where we offer comments or questions from the public at large as part of our responsibility? Any other items of business that any of you would like to cover? Well again, thank you very, very much for coming.

If we could then open it up to the broader group. If there's anybody in the back that would like to make a comment or pose a question you're welcome to do so.

(No response.)

CHAIR HACKETT: Hearing none I might move that we adjourn. Is anybody willing to second that? Thank you. Anybody opposed to doing so? Thanks so much for your time.

And it's great seeing all of you. Let us know what we can do to help and thanks for your involvement and support. Appreciate it.

(Applause.)

(Whereupon, the foregoing matter went off the record at 10:16 a.m.)

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## CERTIFICATE

This is to certify that the foregoing transcript

In the matter of: National Petroleum Council

Before: US DOE

Date: 07-16-13

Place: Washington, DC

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Court Reporter

Mac Rous &

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